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ORIGINAL ARTICLES.

THE ONE-HAND METHOD OF TESTING THE TENSION OF THE EYE.

By DR. C. S. AYRES,
CINCINNATI.

THE testing of the normal and abnormal tension of the eye is an every day necessity in the duties of an oculist. Many conditions require it. Cases of glaucoma, cyclitis, choroiditis, iritis and injuries of many kinds call for a test of the tension. Staphylomatous as well as shrunken eyes are likely to have abnormal tension, and this point must be definitely known. Cases which are plain or well or obscure ones demand this point to be settled almost in advance of other conditions more important. We must differentiate in almost any case of intraocular disease between a normal and abnormal tension. The method of testing this question is, according to text-books, to press the index fingers of the two hands upon the closed lids of the eye under consideration, and then by alternate pressure determine whether there is any deviation from what is known as normal tension. The fingers are placed on the ball and the patient directed to look down and then the pressure is made on the lids as in palpation for fluctutation. Instruments for this purpose have been devised but they are of little value for every day work. The finger test is the best, and the *tactus eruditus* is acquired after some practice. For a good many years I have been using the in-

dex and middle fingers of one hand in preference to the method above stated.

I think I have a more delicate sense of touch in one hand than I have in two. The method is as follows: The patient is directed to close the lids gently and look down. The two fingers are then placed on the eyelid and pushed up against the rim of the orbit, the finger nails resting against it. Then alternate pressure is made over the ball. A more delicate sense of variation from the normal tension can be detected in this way than by the ordinary method. I usually stand on the left side of the patient and use my left hand by preference, but can use either.

One of the advantages of this method is that in making the test the arm is free and at rest. It is particularly useful when examining a patient lying in bed. Here one has to lean over sometimes in a very uncomfortable position, and the arms are bent at right angles and elevated from the body. In making an examination under these circumstances, with two hands, and even while standing and when the patient is sitting, the index fingers are not parallel and point somewhat toward each other. In the one-hand method the fingers are close together and parallel to each other and in their normal position. In my judgment we derive a more delicate tactile sense from the two fingers which are next to each other than we do from the index fingers of the two hands placed side by side.

More accurate ideas of the tension are more quickly acquired with much more comfort to the patient and to the surgeon by the one-hand method.

PAMPHLETS RECEIVED.

"Cytotoxins and Sympathetic Ophthalmia," by B. Pusey, M.D.

"An Old-Time Quack Eye Doctor, the Chevalier, John Taylor," by B. Pusey, M.D.

"Retinal Rosette Formations of Neuroglia in Inflammatory Processes," by B. Pusey, M.D.

"Bacteria in the Eye and Notes on Some Recent Work in Ophthalmologic Bacteriology," by B. Pusey, M.D.

TWO CASES OF SYPHILOMA OF THE CILIARY BODY.

CLINICAL HISTORIES.

By Dr. CH. J. KIPP,

NEWARK, N. J.

Microscopical Examinations and Remarks.

By ADOLF ALT, M.D.

THE parts of two eye balls, to which the following will apply, have been in my hands for a number of months, but for lack of space I have been thus far unable to describe them. The recent monograph on the syphiloma of the ciliary body by Ewetzky* prompts me the more to do this, since, after weeding out the doubtful cases, this careful compiler has been able to make use of only 67 undoubted cases, only 23 of which had been enucleated. Of these 23 a number had evidently been insufficiently examined. A few cases have since been reported which were not included in Ewetzky's monograph, the last one by F. Tooke, (*Monatsbl. f. Augenhlk. Beilageheft*, 1903), who, also, found 22 cases previously reported in literature. Tooke's case and illustration are almost the same as the first one of my two new cases.

It is not unlikely that the number of microscopically examined cases represents very nearly the actual number of eyes enucleated on account of syphiloma of the ciliary body. The clinical observations, on the other hand, have undoubtedly been much more numerous than would appear from the published literature. I have myself seen a number of cases in clinical work which I did not deem of sufficient interest to report, and the same probably holds good for a great many clinical workers. Nor is it always possible, from a clinical standpoint alone, to make sure whether we have to deal with a real gumma of the ciliary body, or whether the tumor started further back in the choroid, as I thought in at least two cases which I observed and which led to a rupture of the sclerotic behind the aequator and subsequent phthisis of the eyeball.

Some authors have doubted the correctness of the diagnosis in cases in which a comparatively short period had

*Ueber das Syphilom des Ciliarkoerpers. Prof. Dr. Th. von Ewetzky. S. Karger, Berlin, 1904.

passed between the infection and the appearance of a tumor in the ciliary body. We know, however, that syphilis is far from acting according to rule, so to speak, and that as we find precocious affections of the nerves, for instance, the optic nerve, we may also have precocious gummata. Histologically there is such a uniformity in the findings of the different authors that there can hardly be any doubt but what the diagnoses are correct. As a rule, eyes affected with a syphiloma of the ciliary body have come into the hands of the microscopists at a comparatively late stage of the disease, when perforation of the cornea or sclerotic or both had taken place and the pain had driven the patient to consent to the removal of the eyeball. It is therefore not astonishing that in almost all of the published cases the syphiloma involved a large extent of the ciliary body. This fact led Ewetzky to state that the syphiloma of the ciliary body always forms a more or less complete ring. He goes on to say: "With this I do not at all intend to deny the *circumscript* type of the syphiloma, as described in the cases of Alt and Coppez, but I must state that these cases are not convincing to myself, since these authors did not examine their cases in series of sections. At least they do not so state."

As concerns the case of Coppez I have nothing to say, as this author can surely answer for himself. In my own case (*Knapp's Archives of Ophth.*, Vol. vi., p. 318) I have made numerous sections through the eye and still possess a number of them. That the tumor was an isolated one and not a ring-shaped or partly ring-shaped one, I can still prove by these sections. What it might have been later on is not the question, but it seems to me not at all unreasonable to assume that a syphiloma in the ciliary body, as well as elsewhere, does not begin, so to speak, full grown, but rather as a very small nodule, which only gradually increases in size as it involves the neighboring tissues. Figure 1 is a photograph made from one of these old sections, nearly through the center of this small tumor. It has lost its stain and therefore shows but little detail. It shows, also, that while the eye was otherwise gravely diseased, the tumor had not yet broken through inwardly or outwardly.

The following is Dr. Kipp's history of

CASE I.—"S. P., aged 22, a slender but well developed man who has only recently come to this country from Italy, was first seen on May 14, 1903. His right eye was normal, V= $^{6}/_{5}$. His left eye was almost blind. There was only perception of light. The lids were normal. The movements of the globe were unimpeded in all directions. The ocular conjunctiva was intensely injected and slightly raised by effusion. The cornea was hazy and the epithelium was rough and uneven. The an-

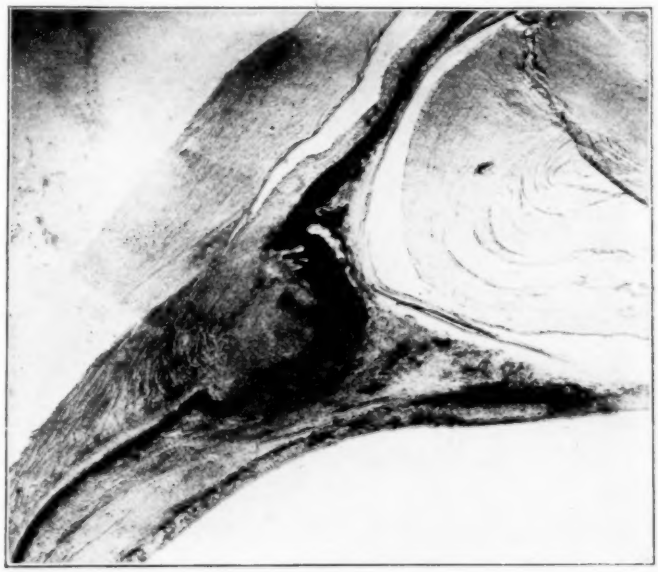

FIG. 1.

terior chamber appeared of normal dimensions, and its outer half was filled with a yellowish mass, like a fibrinous exudation. Only the inner half of the iris was visible. This was swollen and discolored. The pupil was closed. He was suffering great pain in the eye. All that I could learn of the previous history of the case was that he was otherwise in good health, and that the eye had been red and painful *five days* before he come to me. He denied having had syphilis.

The case was looked upon as one of irido-cyclitis. Atropine and cocaine were instilled at short intervals. Warm fomentations were applied several hours daily; six leeches were ap-

plied to the temple and the salicylate of sodium was given internally.

May 16.—The only visible change is a slight dilatation of the inner half of the pupil.

May 19.—The patient is now in the City Hospital. There is now some bulging of the sclera adjoining the outer margin of the cornea, and at about 2 mm. outwards of the outer corneal margin in the horizontal meridian there is now a dark colored spot about the size of a pin head; T+1. He has intense pain in the eye.

May 21.—Increased bulging of the sclera; the dark colored spot has increased to the size of a lentil, and another small spot has made its appearance about 2 mm. above the first one. In the cornea adjoining the bulged portion of the sclera there is now an infiltration of crescent shape apparently in the deepest layers.

May 24.—The bulging of the sclera has extended above and below and is increased in height. Both the dark colored spots have increased in all dimensions, and the two are connected by a ridge of raised conjunctiva. The cornea is more hazy; the anterior chamber contains blood in addition to the yellow mass. Believing that I had to deal with an intraocular growth, I enucleated the globe. During the operation a drop of clear fluid escaped from the larger darkened colored protrusion in the sclera. The wound healed in a few days."

In a letter dated May 31, 1903, referring to this eye, Dr. Kipp says: "I have just learned through a competent interpreter that the Italian whose eye I sent to you had a sore on the penis three years ago, for which he was treated with mercurial inunctions. *No secondary symptoms developed.* Six months ago he underwent another course of inunctions, not because he had any particular ailment, but because he thought that he could thereby prevent the usual consequences of syphilis. I also learned that his mother died of a malignant tumor of the abdomen."

Macroscopic Inspection.—The conjunctiva is swollen and very hyperæmic, especially near the part where a mass of tissue has penetrated the corneo-scleral tissue and spread to some extent outside of it. This tissue is in direct connection with the enormously swollen ciliary body and replaces the

iris on this side, in meridional sections. The new formed tissue stretches across where the pupil should be and is attached to the iris on the other side. The anterior chamber is filled with a coagulated substance. The lens is pressed down and inward by the swollen ciliary body and its capsule is ruptured. The optic nerve is atrophied. (Fig. 2.)

Microscopic Examination.—The tumor of the ciliary body starts at the beginning of the pars non plicata and reaches forward into the iris which has lost its characteristics. At the corneoscleral margin the tumor has broken through the

FIG. 2.

hard membranes and expanded to some extent outside of the site of the perforation under the conjunctiva. It consists altogether of small round cells, mostly mononuclear, a smaller number being of the polymorphonuclear kind. There are a number of small necrotic areas here and there. A few stellate pigmented cells are enclosed between the round cells. The tumor proper contains but few blood vessels. The pigment epithelial layer in the pars non plicata is broader than normal and its cells are beginning to break up. In the pars plicata the pigment epithelium cells have yielded altogether to the pressure, their pigment is free and the boundary line which they formed is broken through by the cells of

the tumor which extends somewhat into the vitreous space. Pigment granules are again encountered in the extra ocular part of the tumor, where pigmentation had been clinically observed. The cells of the tumor, have infiltrated the cornea and sclera in the neighborhood of the perforation and spread into the iris which can only be recognized as such by a line of free pigment granules, the remnants of its retinal layers. I have not been able to find either epitheloid or giant cells anywhere in this tumor.

The contents of the anterior chamber are blood, coagulated fibrine and some tumor cells. Tumor cells and fibrine lie also in the vitreous body behind the lens. The lens is pushed to one side and backwards, and it is smaller than normal. Where its aequator is in contact with the tumor the folded lens capsule is firmly adherent to this. Anteriorly to this, the capsule is ruptured and tumor cells have crept in between the disintegrating lens fibres.

The iris, the part of the ciliary body which is not involved in the tumor, and the choroid are, also, densely infiltrated with round cells and very hyperæmic. The retina is detached and shows small cell infiltration in the nerve fibre layer.

On account of the dense cell infiltration in all the parts affected it is not possible to recognize any changes in the blood vessel walls.

The history, as well as the histological conditions leave no doubt in my mind as to the true nature of this tumor which I do not hesitate to consider a syphiloma of the ciliary body. This particular syphiloma was old enough to have invaded quite a large part of the ciliary body and thus it forms a part of a ring.

The following is Dr. Kipp's history of

Case II.—"N. K. S., an American, 49 years of age, was brought to my office by his physician in June, 1891. The doctor told me that the man was under his treatment for syphilis and that his eyes had been inflamed for a week or more. I found that his left eye was normal in appearance and V = 5/5. The right eye was deeply injected, but there was no chemosis. The cornea was hazy, and Descemet's membrane was the seat of a dense deposit of whitish particles. The iris was discolored and swollen. The pupil contracted and ex-

cluded. He had good perception of light. I advised continuation of the mercurial treatment and atropin solution and warm applications to the eye. The patient did not return to me till six weeks later, when I found the eye worse in every respect. There was now, also, a hypopyon and the iris was covered by a thick, yellowish exudation. The mercury was continued. He returned a month after this last visit with the statement that he could not endure the pain any longer, and that his family had advised him to have the eye removed. At this visit I found in addition to the intense injection of the entire globe extensive chemosis. There were now in the sclera, a few mm. from the outer margin of the cornea, several small black nodules raised a mm. above the level of this membrane. The cornea was so hazy that the iris could scarcely be seen. The anterior chamber was obliterated. The pupil closed. There was only faint perception of light and the tension was markedly increased. I yielded to his entreaties and enucleated the globe on the following day. The wound healed without reaction. Since then the patient has been in good health. He has now no manifestation of syphilis."

The half of this eyeball which Dr. Kipp sent me was not very well preserved and was soft in consequence. It was not possible to make very fine sections and its tissues did not take up the stains very well, although sufficiently well for examination.

Macroscopic Inspection.—A tumor occupies the site of the ciliary body, starting backwards in the pars non plicata and reaching forward to a place of perforation in the corneoscleral region. A faint dark line shows that the iris periphery was here forced outward into the channel of the perforation so that its pupilary edge lies close to the posterior surface of the cornea. The ciliary body diametrically opposite to the tumor, in meridional sections, is atrophied but covered on its inner surface by tumor tissue in which the iris is also imbedded. The whole of the anterior chamber is filled with a tissue the nature of which is not recognized on macroscopic inspection (Fig. 3).

Microscopical Examination:

The tumor of the ciliary body has not only perforated outwardly through the corneoscleral tissue but also broken

through the pigment epithelium layer of the pars plicata toward the interior of the eyeball. It has taken up the iris so that, but for a faint remnant of pigment granules, it can no longer be recognized. The pigmented parenchyma cells of the ciliary body have all disappeared. The pigment epithelium cells have been destroyed, but their pigment lies as yet free between the tumor cells in such a manner as to show the inner limit of the ciliary body. The tumor itself consists of closely packed small mononuclear and polymorphonuclear cells which in several large patches are necrotic. Where the tumor has broken through the hard membranes

FIG. 3.

its cells have infiltrated the adjacent sclerotic and cornea and the tumor has spread mushroom-like under the very hyperæmic and densely infiltrated conjunctiva. There are neither epitheloid nor giant cells. The tumor is in places quite vascular. Tumor cells stretch in meridional sections from one ciliary body to the other, like a cyclitic membrane and cover the inner surface of the ciliary body opposite the tumor as a thick mass. This part of the ciliary body appears compressed and uninfiltrated by round cells, although the choroid farther back shows considerable cell infiltration. The iris on both sides of such sections is replaced by tumor tissue and only recognized by the remnants of its pigment.

The anterior chamber is filled by the remnants of the crystalline lens. The lens capsule has evidently been ruptured in a number of places, and shreds of it are seen here and there in the mass of broken up lens fibres and tumor cells. The lens remnants look exactly as they do after a discision of the lens capsule or in a case of traumatic cataract, soon after the occurrence of the injury.

There is a general infiltration of round cells in the choroid. The retina is detached and atrophic.

The similarity of these two tumors with others, described in literature, as well their history, does not allow of any doubt as to their true nature as syphilomata of the ciliary body. The second case was, also, of sufficiently long standing to allow the tumor to have spread in the ciliary body to some extent and to have assumed the shape of part of a ring.

The destruction of the lens capsule, which has been found in these two cases, seems to be rather characteristic of syphiloma of the ciliary body and has been observed whenever the tumor was of sufficiently long standing and size to influence the lens tissue directly.

PAMPLETS RECEIVED.

"A Single Disc Eye Mirror," by H. Knapp, M.D.

"A Few Personal Recollections of Helmholtz," by H. Knapp, M.D.

"The Treatment of Keratoconus With Galvanocautery," by H. Knapp, M.D.

"The Symmetry of Our Visual Apparatus as a Dual Organ," by H. Knapp, M.D.

"On Hypertrophy and Degeneration of the Meibomian Glands," by H. Knapp, M.D.

"A Point in Dioptics of Astigmatic Refraction Illustrated by a New Model," by H. Knapp, M.D.

"Landmarks in the History of Ophthalmology in the Nineteenth Century," by H. Knapp, M.D.

"Transactions of the National Association of United States Pension Examining Surgeons, 1903."

MEDICAL SOCIETIES.

PROCEEDINGS OF THE OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.*

JOHN TWEEDY P.R.C.S., President, in the Chair.

Thursday, October 29th, 1903.

THE PRESIDENT delivered his opening address, in which he briefly sketched the history of the Society. He drew attention to several of the past presidents, and made feeling allusion to the recent death of one of the oldest members of the Society, Mr. GEORGE LAWSON.

TUMOR OF THE CHOROID.

This case was related by Mr. NETTLESHIP.

The patient was a female, aged 24, who had lost the use of the right eye. The eye was quite blind and in a condition of absolute glaucoma. The eye was removed by Mr. Nettleship in 1894, and when last heard of six years later the patient was in good health. There was a doubtful history of tuberculosis in the family. The vision of the eye was defective when the patient was 15 years of age from detachment of the retina. There was a bulging in the ciliary region, and as the eye was painful it was removed. There was a large staphyloma near the ciliary region on the outer side, and corresponding to it internally there was an angiomatous sarcoma; the cells were round and oval, and it was somewhat pigmented. This was surrounded by a stratum consisting of fibrous tissue in which there was much cholesterin. The optic nerve was atrophied and there were one or two outlying nodules. Probably hæmmorrhage was the origin.

MR. J. H. PARSONS thought the case was almost unique. Fuchs and Leber had collected cases associated with shrunken globes and definite cyclitic changes. He thought the condition suggestive of necrosis of the sarcoma.

*British Medical Journal.

Tumor of the Choroid.

Mr. J. H. Fisher described this case:

The patient was a woman, aged 52, whose left eye he had excised in October, 1902; six years before there was a cataract with detachment of the retina, ascribed to a blow. The eye was removed on account of pain. A small vascular spindle-celled growth was found near the entrance of the optic nerve. It was pigmented and hæmorrhagic and showed some signs of necrosis. A column of sarcoma cells could be traced along one of the posterior ciliary nerves.

The speaker discussed the possible transmission of material from one eye to the other as in those doubtful cases where sympathetic disease had been said to follow similar conditions.

Tobacco Amblyopia.

Major F. O'Kinealy describes this case:

The patient was an Irishman, aged 42, with a specific history. He had lived in India nearly all his life and was a clerk. He had been a very heavy smoker, accounting for as many as 500 Burmah cheroots per month of the cheap and rank variety. The vision was only $^{4}/_{60}$ and J. 18. There was a central defect in both eyes and a limitation of the fields of vision for white. There were several irregular-shaped scotomata situated about the field of vision. Tobacco and alcohol were cut off, and strychnine and iron were given with pilocarpin. Four months later the vision was restored to $^{6}/_{6}$ and J. 1 with glass, though the fields were even more contracted and the multiple scotomata had run together into a complete ring; color perception was still defective.

The speaker also cited another patient, a Eurasian, whose vision was from the same cause reduced to J. 18 with loss of fields for red and green and yellow, in two months he improved to $^{6}/_{9}$ and J. 1. The scotomata disappeared and color vision returned.

Mr. Lang referred to a statement made by Wingrave that he had observed a corresponding defect in hearing in patients suffering from tobacco amblyopia which, with the vision, had improved after giving up tobacco.

Mr. Nettleship commented on the unusual occurrence of a further reduction of fields while the vision was improving.

Mr. Holmes Spicer thought that a syphilitic retinitis might have had something to do with both cases, but Major O'Kinealy said that there was not the slightest evidence of this condition being present.

Mr. Johnson Taylor said he had never seen deafness associated with tobacco amblyopia.

The Anatomy of the Plaques in Xerosis.

Mr. Mayou described this condition, drawing his observations from six typical cases. The plaques were situated on either side of the cornea and covered with bubbles of Meibomian secretion. The xerosis bacillus was found in five of the cases. Sections show that they adhered only to the surface and did not penetrate. He gave his reasons for not considering these the cause of the disease. The changes in the epithelium were those due to exposure, and the superficial layer showed a well-marked layer of keratin on the surface. Beneath this was a layer of keratohyalin. There was a complete absence of cells showing mucoid degeneration. Mr. Mayou thought that the mucin cells were one of the most important factors in bringing about hydration in the normal conjunctiva, and that therefore the essential change was keratinization of the epithelium, due partly to exposure and partly to deficient lachrymal secretion occurring in children of delicate health, and that the Meibomian secretion and organisms were simply adherent to the plaques owing to the altered surface tension due to keratinization of the epithelium and the absence of mucoid changes therein.

Major Herbert said that he had observed similar changes in other mucus membranes. He attributed these bad cases of xerosis to an absence of the mucoid cells in the lining epithelium.

Card Specimens.

Mr. C. H. Goldsmith: A case of retinitis proliferans. Mr. W. Adams Frost: A demonstrating ophthalmoscope. Mr. R. W. Doyne: A case of varicose retinal veins with thrombosis. Messrs. Doyne and S. Stephenson: A case of retinitis circinata. Mr. W. H. Jessop: A case of proptosis.

JOHN TWEEDY, P. R. C. S., President, in the Chair,

Thursday, November 19th, 1903.

CASE OF INDIRECT GUNSHOT INJURY OF EYE; MICROSCOPICAL EXAMINATION.

This case was read by MR. NETTLESHIP. The patient was a man, aged 19, who in July, 1897, held a pistol to each temple and fired. He was brought to the hospital bleeding from a wound in the right temple. The skin was singed and the bullet wound passed through the orbit into the ethmoid. In the left temple was a bullet wound into which a probe could be passed two or three inches. There was perception of light in the right eye, but not in the left. Nine days later the right fundus showed hæmorrhages in various parts of the fundus. In the left no details were visible. Twenty-nine days later the right disc was very pale, and there were several ruptures of the choroid. The left was not so well seen. Thirty-one days after the accident he was X-rayed, this being in very early days of that work. It was thought that two bullets were seen in the skull, but this was found afterwards to be an error. On the thirty-sixth day after the injury convulsions developed and patient died comatose. Post-mortem examination showed that there was no bullet in the skull. There was meningitis of the base and vertex. Only the pistol fired on the left side took effect, the right probably having had a blank charge in it. The back of the eyes were removed for examination, and Mr. Nettleship gave a lantern demonstration and showed photographs of the condition found on microscopical examination. The point of interest was that although the bullet had caused so much injury to the choroid, yet this was only indirect, as it had not passed near enough to the eye to touch it, and there was no rupture or perforating injury of the sclerotic.

The President mentioned a somewhat similar case that had come under his own observation.

AN EASY OPERATION FOR ECTROPION.

DR. FREELAND FERGUS described the operation he had found very useful for ectropion following certain cases of blepharitis. He considered the usual methods with caustics unsatisfactory. The operation he described consisted of dissecting the conjunctiva well away from the underlying tissue

and removing the hypertrophied tissue thoroughly; on this latter point depended the success of the operation. He considered that Snellen's sutures produced but little effect if they were kept aseptic.

Average Visual Acuteness.

Dr. Freeland Fergus also read a paper on this subject. He seriously called in question whether the $^6/_6$ of Snellen's types was the average vision of the majority of people. He thought that the average was nothing like so high if patients were taken without the correction of their refractive error, and that for medico-legal questions the average without correction should be taken. He suggested that a committee should be formed to investigate this. They might at the same time investigate the question of color vision, as he considered that color blindness was not in any way dangerous to navigators or seamen if their light sense were normal.

Mr. Devereux Marshall said that he was surprised that color blindness should be considered of so little importance to those engaged in navigation, and if there were any who doubted the extreme inadvisability of allowing color-blind men to take responsible positions on board ship a committee should certainly be formed to settle the matter.

The President said that although he quite agreed as to the importance of the light sense being perfect, yet he by no means thought that color-blind people should be allowed to take charge of ships.

Messrs. Secker Walker and Roll discussed the operation for entropion, and Dr. Freeland Fergus in reply said that he considered color blindness of no disadvantage to seamen; or, if their light sense was perfect, they would never confuse the side lights. He thought it entailed much hardship on men who were perhaps rejected from the extra master certificate for color blindness when they had perhaps served many years at sea without any accident having occurred in consequence of their defect or any evidence that they confused the navigation lights.

The Judgment of the Size of Distant Objects.

Mr. N. Bishop Harman in his paper on this subject referred to a note in the *British Medical Journal* of September 12th, 1903, wherein a writer drew attention to an experiment

in which, by an illusion, the experimenter was led to believe objects seen were smaller and more distant than they were known to be; this had been attributed to the influence of accommodation. Mr. Harman pointed out that these facts were true and well known. He showed by several simple experiments with prisms and stereoscopic views that objects could be made to appear either small or large at will, and that this illusion was due to the state of balance of the extraocular muscles. The unconscious cerebration led one to suppose that objects of a given size appeared, when seen under unnatural conditions of convergence, smaller and more distinct, but that when seen under unnatural divergence they seemed larger and nearer than they were known to be. Mr. Harman showed that in the progression of the vertebrates, increase of visual acuity was coincident with the moving of the eyes from a primitive lateral position of the head to a forward position, in which the visual axes could approximate a normal parallelism; the change was complete in man and with him perception of space was probably most perfect. Coincident with these changes was a specialization of the superior oblique muscle. Mr. Harman pointed out that in the plaice almost the whole of this slow progression had been anticipated at a bound. They elected to live a life resting on one side, and they appeared to depend above all other fish on the acuity of their eyes, both of which were turned upwards on the exposed uppermost side, and were, he thought, capable of some degree of parallelism of visual axes. In these fish he had found the same special features of the superior oblique muscles which characterized the higher vertebrates; it was not found in any other fish. He believed that the steady progression of the vertebrates towards binocular vision indicated the pre-eminent importance of extraocular muscle balance in the factors which went to form our judgment of time and space.

Card Specimens.

Mr. G. W. Roll: A case presenting a raised area of choroidal degeneration. Mr. Doyne: A case of ill-developed cornea. Mr. Pooley: Thrombosis of a retinal vein.(?) Mr. G. E. Henderson: Sections showing subconjunctival dislocation of the lens. Mr. Jessop: A case of sarcoma of the limbus. Mr. Doyne: Sclerosis of the retinal artery.

JOHN TWEEDY, P.R.C.S., President, in the Chair.

Thursday, December 10th, 1903.

This was a clinical evening and was given up to the exhibition of cases.

ARTERIO-VENOUS ANEURYSM OF THE ORBIT.

MR. N. C. RIDLEY showed a case of arterio-venous aneurysm of the orbit, recurring six months after ligature of the common carotid.

The patient was first seen in December, 1901, with paralysis of the left sixth nerve, following a fall on the head. In April, 1902, the left eye began to protrude, the pupil to dilate and the vision to fail. Iodide was given, but without any effect. In March, 1903, pulsation was first noticed with a thrill. On April 8th, 1903, the left common carotid was ligatured in the usual situation above the omo-hyoid. The result was the immediate cessation of the pulsation and symptoms. On July 28th faint pulsation was again felt, but there was no proptosis nor other symptoms, and the vision was $^{6}/_{36}$. When shown the pulsation and thrill were both very marked, although the patient still felt much relief from the operation.

The condition was probably due to a traumatic communication between the cavernous sinus and carotid artery.

MR. PRITCHARD showed a case of the same nature with corresponding result, and experience in connection with such cases were narrated by Mr. Johnson Taylor, Mr. Adams Frost, Mr. Hartridge, Mr. Fleming, Mr. Collins and Mr. Nettleship.

MR. BREWERTON thought that owing to the free communication between the branches of the two external carotid arteries it would be much better to ligature the internal carotid artery.

MR. FISHER, in view of the size of the communicating arteries in the circle of Willis, thought it unlikely that ligature of the internal carotid would be better than ligature of the common carotid, to say nothing of the much greater difficulties of the operation.

MR. RIDLEY, in reply, did not think that ligature of the internal carotid would be any more likely to cure the condition than that of the common carotid. If he did anything more he should feel inclined to clear out the orbit, but

in this case, as apparently in most of the others mentioned, the patient had derived much relief, although the condition could not be said to be cured.

"Silver Wire" Arteries.

Mr. Percy Flemming showed the drawing of a fundus with marked arterial degeneration.

The patient was a woman, aged 48, with granular kidney. She died of apoplexy a few weeks after the drawing was made. During life the arteries had a typical sclerosed appearance with "silver wire" lines along them. There was venous obstruction at the points where they crossed the veins. There were also hæmorrhages in the retina.

Microscopic sections were shown of the retina with photomicrographs; there was enormous thickening of the vessels.

Mr. Marcus Gunn showed specimens of "silver wire" arteries from a similar case.

Mr. Doyne showed a woman, aged 54, with somewhat similar ophthalmoscopic appearances. Her urine was healthy, but the radial arteries were thickened.

A discussion followed on the cause of the apparent constriction of the veins by the arteries.

Retinal Effusion.

Mr. Doyne showed a case of retinal effusion in a patient aged 65 whose sight had recently failed. There was no history of syphilis, but years ago he had had gonorrhœa.

In the right fundus were discrete patches of fluffy whitish exudation, especially near the disc; some vessels were concealed by it. There was no obvious disease of the blood vessels. The disc was clear, and there were some pigment spots on the anterior capsule. Pigment spots were also seen on the capsule of the left lense. The effusion had extended since it was first seen.

Pemphigus of the Conjunctiva.

Mr. William Anderson showed a case of conjunctival pemphigus.

The patient was a woman, aged 29, who had always enjoyed good health until a sudden febrile attack four months ago. There was a general rash, becoming vesicular; the

eyes were dim, and the lids were closed for about four days, when adhesions were seen to have formed between the lids and the eyeballs; there was also a severe superficial ulcerative stomatitis. After a time there was complete desquamation, with shedding of the nails of the hands and feet. The skin of the arms, chest, back and legs when shown were covered with patches of dark-brown pigmentation. The lids of the right eye were thickened, and the lower *cul-de-sac* nearly obliterated. The upper one was free in its middle third. There was also a muco-purulent discharge but the cornea was clear. In the region of the lacrymal gland was a large retention cyst; vision = $^{6}/_{18}$. The left eye was in a somewhat similar condition, with vesicles in the lower fornix; vision = $^{6}/_{24}$.

Hereditary Nodular Opacities of the Cornea.

Mr. Holmes Spicer showed a case of this condition and some drawings. It was, he said, a family disease, though probably not congenital. Fuchs in one case had removed a portion of the cornea and found it softened and Bowman's membrane absent. The deposit, which was amorphous, lay in the substantia propria. One observer had described the deposit as sodium urate, but Mr. Spicer doubted whether it were so. The condition was progressive, and in Mr. Spicer's example the father as well as the daughter was affected.

Mr. Johnson Taylor described a somewhat similar condition that he had seen in puppies; it was thought to be due to malnutrition.

Mr. Spicer said that Fuchs had also seen this condition in dogs.

Unilateral Anophthalmos.

Mr. A. H. P. Dawney showed an infant suffering from this condition. The child was very feeble and delicate, and without an anæsthetic it was impossible to say if a rudimentary eye existed.

Mr. Tweedy commented on the term used in describing this case. He thought the condition should be termed anophthalmia, and the child described as anophthalmos.

ABSTRACTS FROM MEDICAL LITERATURE.

By W. A. SHOEMAKER, M.D.
ST. [illegible]S, MO.

A CASE OF PANOPHTHALMITIS IN TYPHOID FEVER.

W. Whitehead Gilfillan (*Medical News*, July 25, 1903) reports a case of panophthalmitis complicating typhoid fever, in which the eye symptoms set in on the twenty-sixth day of the fever. This is an extremely rare complication; less than a dozen cases have been reported.

AN INTERESTING CASE OF PIGMENTARY DEGENERATION OF THE RETINA (RETINITIS PIGMENTOSA.)

Walter L. Pyle (*American Med.*, Aug. 8, 1903) reports the case of a man 54 years old, who, with the exception of his ocular trouble, was in perfect health. The following points are of interest:

1. The accurate and comprehensive family history which could be traced for over a century.
2. The absence of any history of consanguinity.
3. The absence of serious ocular disease in any other member of the family.
4. The long retention of serviceable central vision despite contraction of the visual fields to within 5° of the fixation point.
5. The remarkable preservation of accurate color perception and sense of color-difference.
6. The noteworthy compensatory development of the sense of touch and hearing, estimation of distance, sense of location, etc.

THE PRESENT STATUS OF SUBCONJUNCTIVAL INJECTIONS IN OPHTHALMIC THERAPEUTICS.

Chas. Stedman Bull (*Medical Record*, July 18, 1903) from an examination of the papers published on this subject by the authors quoted, and from a study of all the cases of all kinds reported, thinks that the efficiency of the various solutions recommended for subconjunctival injection cannot be due to the increased local acceleration of the lymph currents, nor to

their antiseptic action, but to their local irritating properties. The author's opinion of this method of treatment is as follows:

"A careful observation of my own cases, in which various solutions were employed, has not been able to convince me that subconjunctival injections bring about any more rapid or favorable results than the other methods of treatment which we have hitherto employed for affections of the cornea, uveal tract or retina. In several cases of orbital cellulitis of an infectious character, however, I found that subconjunctival injections of a sublimate solution (1-1,000) did exert a very favorable and unusually rapid effect in hastening the suppurative stage, in reducing the dense infiltration of the orbital cellular tissue, and thus aiding in restoring the circulation to the strangulated parts.

"My own conclusions, based on observations of my own cases and a careful study of the literature of the subject, are that all reports of the beneficial effects of subconjunctival injections should be carefully criticised and compared with the results obtained by other methods of treatment before accepting them as of any real value."

THE INFLUENCE OF HEREDITY ON THE EYE.

John E. Weeks (*Medical Record*, Aug. 8, 1903) calls attention to the fact that:

"The transmission of peculiarities of form and function, of tendencies to degeneration and to disease, from parent to child for some generations affects the eye as well as other parts of the human body. The form, the color, peculiarity of movement, as well as peculiarities of the deep tissues of the eye are largely influenced by heredity. Consanguinity in the parents accentuates the hereditary tendency. In the greater number of cases of hereditary malformation it is not so much that the defect is handed down from generation to generation through a long line, as that the children of one union, because of some peculiarity of mother or father, all or part suffer."

The author discusses the following conditions:

Epicanthus, ptosis, coloboma of the iris, aniridia, polycoria (probably hereditary), coloboma of the choroid, inherited peculiarities of the cornea, albinism, microphthalmus, cataract (congenital and premature senile), optic nerve

atrophy, hemeralopia, retinitis pigmentosa, retinitis punctata albescens, glaucoma and hydrophthalmus.

The following list of diseases, due to hereditary syphilis, is referred to:

Alopecia affecting lids and brows.

Choroiditis, presenting mixed forms, occurring either as a congenital condition or before the twenty-fifth year, affects both eyes usually, however it may be confined to one eye.

Erythema of the lids, early in child life.

Iritis, acute, occurring in the first months of infancy.

Iritis, gummatous, occurring in the early years of childhood.

Eruptions, nodular, vesicular, papulo-squamous, all affecting the eyelids and occurring in childhood.

Optic-nerve atrophy, occurring congenitally or in the early years of life.

Ophthalmoplegia externa, rarely.

Palsies of eye muscles, nuclear.

Palsies of eye muscles, peripheral, occurring in childhood.

Parenchymatous keratitis, seldom before the age of six years and only very rarely after the age of thirty-five. Hutchinson narrates one case occurring at the age of sixty.

Periostitis of the orbit, in early childhood, pursuing an acute course.

Retina, pigment degeneration of (pseudo-retinitis pigmentosa).

Retinitis, hæmorrhagic.

Rupia, affecting the lids.

Tarsitis, occurring in early childhood, usually bilateral.

The transmission of faults in the shape of the eye, whereby the various errors of refraction, hypermetropia, myopia and astigmatism recur in the offspring, is not unusual.

Muscular anomalies, particularly the various phorias, are not infrequently transmitted.

Color-blindness of all degrees is also strongly influenced by heredity.

THE SURGICAL TREATMENT OF HIGH MYOPIA.

H. V. Würdeman and Nelson M. Black (*Journal of the American Medical Association*, Nov. 28, 1903) report the refraction of 8776 eyes, in 7160 of which a cyclopegic was

used; 16.9 per cent. of the latter number were myopic (including myopia, myopic astigmatism and compound myopic astigmatism). Of the total number 78 cases had more than 10 D.— In most of these cases the high degrees of myopic were complicated by a considerable degree of astigmatism, and the authors feel that had our foreign confreres carefully corrected the astigmatism in their cases, they would not have found it necessary to operate so frequently; as out of the 78 eyes all but eight were given comfortable and useful vision by the careful correction of their refraction. An operation was suggested in the eight eyes and accepted in six with good results, which were:

1. Increase in the visual acuity.
2. Enlargement of the retinal images.
3. Enlargement of the visual field.
4. Increased range for near work.
5. The wearing of light lenses instead of heavy strong spheric lenses, in a combination which permits of clearer and less distorted retinal images.
6. The pupil being brought nearer the retina the eccentric visual rays are more excluded.
7. And most important, the more extended use of the eyes obtained by the patients; in all cases a new world having been opened to their view. Detachment of the retina has not occurred in any of these cases, and even if it should happen, the German statistics show that it is only in 5 per cent., and this is the percentage of cases of high myopia in which detachment occurs without operation.

RÉSUMÉ.

1. Surgical treatment of myopia should be limited to those cases over —12.00 D. who suffer great inconvenience from their correcting lenses. The ideal cases for operation are those of —17.00 to —18.00 D.
2. The operation is mainly indicated in young adults.
3. Cases having active disease and changes in the ocular structure, such as progressive myopia, choroiditis, fluidity of the vitreous or detachment of the retina are not applicable.
4. The dangers of operative interference are more than counterbalanced by the results to be achieved. which are mainly, increase of visual acuity and of the visual field, and

more extended use of the eyes which accompany diminishment of the refraction.

SYPHILIS OF THE EYE.

Wendell Reber (at a meeting of the North Branch Philadelphia County Medical Society, October 8, 1903) in taking part in a general discussion of acquired and hereditary syphilis called attention to the fact that when this disease attacks the eyes primarily the lesion is usually on the extreme margin of the lids. In the secondary stage the iris is most frequently involved. Statistics show that 50 per cent. of all cases of iritis are caused by syphilis, and the author believes we are justified in suspecting every case of iritis unless trauma, tuberculosis, microbic infection or rheumatism can be shown to be the cause. Choroiditis is as frequently of specific origin as iritis. The most frequent tertiary eye symptoms are the intra- and extra ocular palsies. These symptoms, if trauma and diabetes can be excluded, are usually of specific origin and are frequently followed by locomotor ataxia or general paresis.

THE CAUSES, PREVENTION AND MANAGEMENT OF MYOPIA.

J. Herbert Claiborne (at the fifty-fourth annual session of the American Medical Association) read a paper on this subject, and sums up his views as follows:

1. Myopia is a condition in which there is an increase in the antero-posterior diameter of the eyeball. This condition is, except in very rare cases, acquired. It is a distinctly vicious process, and in the great majority of cases tends to increase. It should, therefore, be regarded as a disease. It usually begins in childhood.

2. Its causes may be divided into predisposing causes and a direct cause.

3. (*a*) The predisposing causes are, in general terms: Heredity, naturally lax conditions of the eye tunics in certain individuals, the injudicious use of the eyes after sickness (usually in children after the exanthemata) bad illumination, improperly placed illumination, incorrect position in the act of reading, the existence of refractive errors, (generally astigmatism), which are uncorrected or improperly corrected, corneal opacities, any systemic condition which

tends to produce cerebral congestion, for example, constipation. (*b*) The direct cause is an elongation of the eye on its antero-posterior axis, at the posterior pole, except in the case of corneal astigmatism.

4. When myopia has once been acquired, its increase is directly caused by pressure on the globe by the extrinsic muscles, due to the convergence of the visual lines toward the far point—the convergence theory.

5. The weight of evidence and reason is distinctly against the accommodative theory.

6. Theoretically, full correction of the myopia is indicated, whereby the far point is thrust to infinity.

7. Practically this is not always possible.

8. The far point should be thrust as far as possible toward infinity, but, at the same time, it should be compatible with the best vision and the greatest comfort.

LESIONS OF THE EYE WHICH OCCUR IN THE COURSE OF DISEASES OF THE HEART, BLOODVESSELS AND KIDNEYS.

Chas. Stedman Bull (in a paper read before the New York Academy of Medicine, Nov. 5, 1903, *Med. Record*, Dec. 5, 1903) discusses his subject under two headings, viz.: (1) Ocular Lesions Occurring During the Course of Diseases of the Heart and Bloodvessels, and, (2) Ocular Lesions Occuring During the Course of Diseases of the Kidneys. Under the first heading he refers to (*a*) conditions which affect the blood pressure, and, (*b*) organic disease of the heart and bloodvessels.

General anemia frequently causes a distinct diminution of the intravascular tension, causing a pale condition of the optic discs, and, if the anemia lasts long, retinal hemorrhages.

Severe hemorrhages usually affect the retinal circulation and cause partial or complete loss of sight, usually bilateral, which may or may not be partially restored. In these cases the optic discs may be pale and the vessels narrow, or the opthalmoscopic signs may be negative.

Amaurosis, after a hemorrhage, rarely occurs, and when it does it is usually in persons in poor health and occurs several days after the loss of blood. The loss of sight is often due to a hemorrhage within the optic nerve, and if it is far

back, the ophthalmoscopic symptoms are, for a time, frequently negative.

Retinal hemorrhages, without signs of inflammation, usually indicate increased blood pressure such as occurs in hypertrophy and valvular lesions of the heart, or of diseased retinal vessels, or of morbid conditions of the blood.

Diseases of the heart and bloodvessels may give rise to *thrombosis* and *embolism*. *Rheumatic endocarditis* is one of the frequent causes of embolism; it acts mechanically and excites no inflammation. *Ulcerative endocarditis*, being a variety of pyemia, may cause hemorrhages, thrombosis and abscesses in different parts of the eye, especially the retina choroid and conjunctiva.

Atheroma, *arterio-sclerosis*, and fatty *degeneration* of the bloodvessels frequently cause hemorrhages into the retina, choroid and ocular conjunctiva, especially in people past middle life.

Arterio-sclerosis is regarded as the cause of hemorrhagic glaucoma.

Endarteritis is by some authorities regarded as a cause of cataract.

Arterio-sclerosis of the *internal carotid* and *ophthalmic artery* often cause atrophy of the optic nerve.

"In *aneurysm* of the *aorta or innominate* artery, vasomotor and oculo-pupillary symptoms are often found on the corresponding side. Later, these initial irritative symptoms give place to ptosis, myosis and enophthalmos. Such aneurysms may also give rise to retinal pulsation. If the aneurysm involves the internal carotid artery, it may cause unilateral optic neuritis, and if such an aneurysm grows toward the orbit, there may be developed the symptoms of pulsating exophthalmos. Such an aneurysm has also been known to cause total paralysis of all the muscles of one eye, and, also anesthesia of the lids, eyebrows and conjunctiva, from paralysis by pressure on the ophthalmic division of the fifth nerve."

Cerebral apoplexy and *embolism* frequently cause *sudden* paralysis of the ocular muscles.

The absence of pupillary symptoms indicates an embolism. The presence of spastic myosis, followed by mydriasis during a seizure, points to apoplexy.

"*Non-infectious marantic thrombosis* of the *cavernous sinus* causes paralysis of the motor oculi nerves, dilated and immovable pupil, anesthesia of the parts supplied by the trigeminus, pronounced venous stasis of the retinal veins with numerous hemorrhages and impairment of sight from pressure on the optic nerve. If, in addition, there is edema of the lids and protrusion of the eyeballs, the process is in the vicinity of the orbit."

The most common *ocular lesions occurring in the course of diseases of the kidneys* are the two forms (degenerative and exudative) of retinitis and a neuro-retinitis albuminurica, the *direct* cause being a disease of the bloodvessels.

Other lesions are: edema of the eyelids, chemosis of and hemorrhages into and beneath the ocular conjunctiva, iritis, lesions of the ocular muscles (denied by some writers), choroidal hemorrhages, papillitis, and uremic amblyopia or amaurosis. The last-named disease being due to an acute auto-intoxication. The disturbance of vision is always bilateral, develops rapidly and passes into total blindness. Ophthalmoscopic signs are negative and the symptoms promptly disappear under appropriate treatment.

HEMERALOPIA FROM EPIDEMIC PAROTIDITIS.

Arturo Campani (*Gazzeta Degle Ospedali e Delle Cliniche*, Aug. 30, 1903) refers to the fact that hemeralopia is not spoken of as a complication of mumps by the text books, and reports a case. It lasted five days and then gradually disappeared with the disappearance of the parotiditis, no fundus changes were found. The author holds the toxines of the disease responsible for the symptoms.

DIAGNOSIS OF TUMORS OF THE ORBIT.

F. Ferrier and V. Morax (*Révue de Chirurgie*, vol. xli., page 1235,) report two cases and discuss the operative indications. They also give a review of sixteen other cases, all of which were fibromata, or sarcomata or a combination of both with one exception; this proved to be an endothelioma.

THE TREATMENT OF CONVERGENT STRABISMUS.

W. Y. Craig (*N. Y. Med. Journal*, Oct. 17, 1903) offers the following conclusions:

1. The earlier the child is seen, the better the prospect for a cure.

2. The vision of squinting eyes can in a majority of cases be improved and some function restored, if treatment is begun early.

3. A small percentage of cases of convergent squint can be cured by mydriatics, glasses and proper exercises, without operation.

4. The correction by non-operative methods is much to be preferred, as the motility of the eye is more perfect and the deformity produced by sinking of the caruncle is avoided.

5. Operative procedures should be employed in those cases in which non-operative treatment after a thorough trial has failed, and in those cases in adults in which we operate for the cosmetic effect.

SOME OBSCURE CASES OF EYE STRAIN.

F. W. Marlow (*N. Y. Med. Journal*, Sept. 26, 1903) reports three cases, from the study of which he draws the following conclusions:

"The most careful investigation and the apparently accurate correction of all the discoverable errors may completely fail to relieve the symptoms; may, in fact, aggravate them, and yet the symptoms may still be due to eye strain. Indeed, the fact that glasses which are apparently correct aggravate the symptoms is, I believe, in most cases evidence that the latter do arise from eye strain, and that a latent error is present; usually an error in the muscle balance. In all the cases described the possibility of the existence of the kind of error which was finally found to be present was fully appreciated from the first. In the second place, I believe that lapse of time is a very important factor in the elucidation of the true nature of these cases. The action of the accommodation in neutralizing refractive errors is so automatic and persistent that all efforts to annul it sometimes fail to be completely effective; even atropine and other powerful cycloplegics failing to bring about a complete relaxation. The natural relaxation due to advancing years often reveals a hitherto latent error. Similarly the instinctive tendency to see single and not double causes the intrinsic muscles to contract so as to maintain a parallelism of the visual lines. This contraction is so constantly maintained that the muscles get into a condition of tonic spasm which is extremely persistent. Just as we have a

spasm of the accommodation in cases of hyperopia and astigmatism in the interest of clear vision, so we have a spasm of the extrinsic muscles in the interest of single vision, and the latter is far more difficult to demonstrate than the former. It is surprising what high degrees of error may remain latent year after year and produce a train of symptoms absolutely intractable to treatment until the manifestation and correction of these errors has occurred. I have seen some cases which have inclined me to think that not only is lapse of time the only thing which will reveal the true nature of the ocular conditions, but that old age itself is reached, in some cases, before the true condition becomes manifest."

BOOK REVIEWS.

THE REFRACTION AND MOTILITY OF THE EYE FOR STUDENTS AND PRACTITIONERS. By WM. NORWOOD SUTER, M. D. Philadelphia: Lea Bros. & Co. 1903, pp. VII and 390. Price $2.50.

To those familiar with Dr. Suter's admirable little book on optics and his chapter on refraction in Posey's and Wright's Treatise on Diseases of the Eye, Ear, Nose and Throat, it is not a matter of surprise that this more systematic treatise on refraction should make its appearance. The evidences of his thorough grasp of the fundamentals of his subject indicated in those efforts are again manifested here. He has managed to condense a large amount of accurate and well digested information in his 390 pages without leaving untouched any necessary or important matter pertaining to either refraction anomalies or defective motilities. And it is just here that the great value of Dr. Suter's book lies. He is accurate, as his thorough familiarity with the underlying optical principles allows him to be, and this complete mastery of his subject enables him to present his matter in that abbreviated form, which seems to be demanded in a hand book.

It might occur to the reader of experience, with this or any other book of like nature that some particular portion might have been enlarged or another more restricted in its consideration, but that is a matter of individual opinion and

does not affect the value of the work as a whole and as fulfilling the ends of its being.

Anything like an analysis of the work is, of course, impossible in a short notice like this. Suffice it to say that the first 310 pages are given to the subject of refraction alone, the remaining 80 being concerned with disorders of motility. We observe with satisfaction that he adopts the prism-dioptre system of notation, and are pleased to note an absence of certain incorrect terms and phrases which disfigure some other of our treatises on similar subjects. Thus he does not state that he has "refracted" anybody and he uses "skiascopy" and not "retinoscopy"—a mongrel word, even if it designated the thing it is used to describe, which it does not. It is true we have many words in long usage which are hybrids of Greek and Latin, but when a new one is introduced there can be no excuse for such unlawful combinations. If such a word were even needed to describe our inspection of the retina, it should be *Dictyoscopie*—δικτυον, being, according to Hirschberg, our authority on ophthalmologic Greek, the synonym of the Latin *retina*. Dr. Suter has gone into the literature of his subject very thoroughly and is thus enabled to give credit where it is due. This is especially true as to American workers, though never to the ignoring of the contributions from foreign authors. It is certain that the student never will be misled if he follows the teachings of this little book.

S. M. Burnett.

Die Augenærztlichen Operationen (the operations on the eye). By Prof. D. W. Czermak. Part 13 and 14. Wien, 1904. Carl Gerold's Sohn. Price 7 marks.

After an interval of several years we are glad to welcome these new parts of this excellent text-book. The present numbers deal especially with the operations on the crystalline lens and the subjects are treated in the same exhaustive and superior manner as those in their predecessors.

Ueber das Syphilom des Ciliarkœrpers (on the syphiloma of the ciliary body). By Prof. Dr. Th. v. Ewetsky. Berlin, 1904. S. Karger.

In this monograph the author has collected all previously reported cases of syphiloma of the ciliary body, and adds to

them four new ones. On the hand of this material, and after having rejected all doubtful cases, he draws certain conclusions which the interested reader must look up in the original. The monograph is excellent and should be widely read.

DIE FUNCTIONSPRUEFUNG DES AUGES UND IHRE VERWERTHUNG FUER DIE ALLGEMEINE DIAGNOSTIK (Functional examination of the eye and its value in general diagnostics). By PROF. DR. O. SCHWARZ. Berlin, 1904. S. Karger.

The charm of this book lies in the rather original manner in which its subject is handled. It includes chapters not found in such a complete form in other text-books on the functional examination of the eye, like the pupillary phenomena and the usefulness of the disturbance of function for the recognition of disease of the eye, as well, as of other parts of the body. Its language is clear and simple and to the point so that students can grasp the subject though little familiar with its mathematical side. The book deserves a wide circulation.

NON-SURGICAL TREATISE OF THE PROSTATE GLAND AND ADNEXA. By G. W. OVERALL, A.B., M.D. Chicago: Rowe Publishing Co.

The author states that in 25 years of practice he has been enabled, after many years of research, to devise ways and means by which to reach the seat of prostatic disease. He is opposed to the use of the knife in most cases and has been very successful in the application of electricity to the diseased parts. With practical illustrations and the relation of incident cases he supports his position, The book is very interesting and should stimulate others to try the author's methods.

PAMPHLETS RECEIVED.

"Vernal Conjunctivitis," by C. Posey, M.D.

"Eye Complications of Smallpox," by A. R. Baker, M.D.

"A Case of Tuberculosis of the Conjunctiva; Recovery Without Local Interference," by F. L. Henderson, M.D.

"The Desirability of a Uniform Notation of the Meridians of the Eyes and Those of the Visional Field," by H. Knapp.